

In the Specification

Please replace the last full paragraph of page 5, beginning at line 19 and extending through page 6, line 6, as follows.

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B1 --Referring now to the figures wherein like reference numerals refer to like parts throughout, Figure 1 depicts a space borne antenna system 10 including an X-band sub-system 12 and an L-band sub-system 14. The present invention is directed to the L-band sub-system 14, the details of which are shown in Figures 2-4. The L-band sub-system 14 comprises a relatively large inflatable antenna assembly 18 which includes a torus support structure 20 (Figure 2) which is, for example, 50 meters in diameter and supports 91 contiguous reflector super elements 22. A cross-section of the antenna assembly 18 taken along the lines 3-3 of Figure 2 is shown in Figure 3. Each reflector cell 22 as shown in Figures 3 and 4A includes a mesh-type parabolic reflector 24 having a hexagonal outline or perimeter 25. The mesh reflector 24 is supported at its six corners by rigid post members 26 which when the antenna is deployed, stiffen the mesh reflector 24 as well back-up suspension cables 28 which form a web 30 and a set of drop lines 32 which act to pull the mesh-type reflector 24 into a parabolic shape.--

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Please replace the first full paragraph on page 8 as follows.

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B2 --Referring now to Figures 9A and 9B they are illustrative of the array steering mechanism where feed array 34 steers a super element beam generated by feed array 37 in Fig. 9A to  $0^\circ$  with time delay units also steering the array factor to  $0^\circ$ . As shown in Figure 9A, the feed element of group 37 is

B2 centered in the feed element array 34. With no array factor steering being applied, an antenna pattern as shown in Figure 9B results. In Figure 9B, reference numeral 52 depicts the super element beam pattern generated by the selected feed element group 37. The composite antenna pattern of the entire phased array antenna system as shown in Figures 2 and 3 includes a main lobe 54, and pairs of side lobes 55. Array factor steering is indicated by the position of a pair of grating lobes 56 on either side of the main lobe 54.--

Please replace the last paragraph on page 9, line 26 through page 10, line 7, as follows.

B3 --Another method of reducing grating lobes 58 of the composite beam is to randomly select feed element groups about the optimum position as shown in Figures 15A, 15B and 15C where the configuration of the selected feed groups 37<sub>a</sub> of feed array 34-1 is centered at 0°, while the feed groups 37<sub>b</sub> and 37<sub>c</sub> of feed arrays 34-1 and 34-2 as shown in Figures 15B and 15C are offset to the left and right relative to group 37<sub>a</sub>. Such an arrangement would produce antenna patterns such as shown in Figure 15D, where the main lobe 54 of the composite pattern is located at 1.38° in elevation; however, the grating lobes 58 are significantly larger than those depicted in Figures 14B, being only 10dB down from the amplitude of the main lobe 54.--

#### In the Claims

Please add new claims 27 - 45 as follows.

B4 27. A phased-array-of-reflectors antenna comprising: